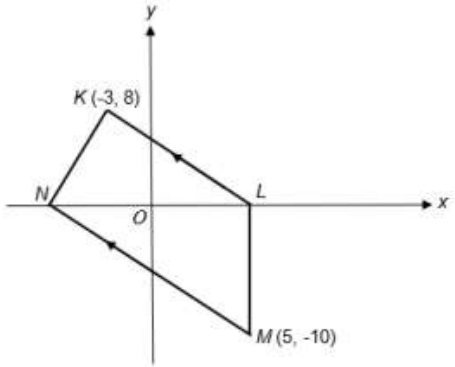
GARIS LURUS / THE STRAIGHT LINE

MELAKA

SMKA / SABK

Rajah 6 menunjukkan garis lurus *KL*, *LM*, *MN* dan *NK*, dilukis pada suatu satah Cartes. Garis lurus *LM* adalah selari dengan paksi-*y*.

Diagram 6 shows the straight lines KL, LM, MN and NK, drawn on a Cartesian plane. The straight line LM is parallel to the y-axis.



Rajah 6 / *Diagram 6*

Cari / *Find*

(a) jarak bagi *LM*,
distance of LM,

(b) persamaan garis lurus *NM*.
the equation of the straight line NM.

[4 markah / *marks*]

Jawapan / *Answer :*

Diberi persamaan garis lurus *AB* ialah $3x + ky = 8$ dengan k ialah pemalar. Garis lurus *AB* adalah selari dengan garis lurus yang menyambungkan titik $P(-1, 6)$ dengan titik $Q(5, -3)$. Cari nilai k dan seterusnya hitung pintasan-x bagi garis lurus *AB*.

Given the equation of the straight line AB is $3x + ky = 8$ *where k is a constant. The straight line AB is parallel to the straight line connecting the point* $P(-1, 6)$ *with the point* $Q(5, -3)$. *Find the value of k and then calculate the x-intercept of the straight line AB.*

[5 markah]
[5 *marks*]

Jawapan / *Answer*:

JOHOR SET 3

Dalam rajah 2, *GH*, *HK* dan *KL* ialah garis lurus. Titik *H* berada pada paksi-*x*.
GH selari dengan *KL* dan *HK* selari dengan paksi-*y*. Diberi bahawa persamaan *GH* ialah $2x + y = 6$.

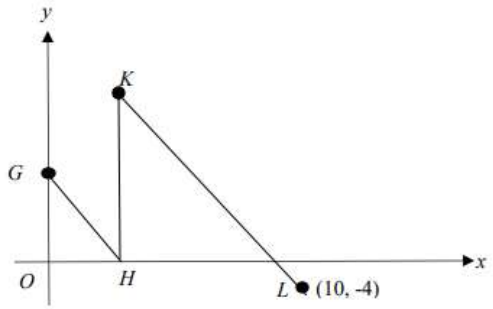
In diagram 2, *GH, HK and KL are straight lines. The point H is on the x-axis.*
GH is parallel to KL and HK is parallel to the y-axis. Given that the equation of GH is $2x + y = 6$.

(a) Nyatakan persamaan garis lurus *HK*.

State the equation of straight line HK

(b) Tentukan persamaan garis lurus *KL* dan seterusnya nyatakan pintasan-*x* bagi *KL*.

Determine the equation of straight line KL and hence, state the x-intercept for KL



Rajah 2 / *Diagram* 2

[4 markah / 4 *marks*]

Jawapan/*Answer*:

(a)

(b)

KEDAH

Tinggi asal pokok jagung Aiman ialah 5 cm. Selepas *x* hari, tinggi pokok jagung Aiman ialah *y* cm, dihubungkan oleh persamaan $y = \frac{3}{4}x + 5$. Manakala, pokok jagung Zarul mempunyai kadar pertumbuhan yang sama dengan pokok jagung Aiman. Pokok jagung Zarul mencapai tinggi 152 cm selepas 25 hari.

The initial height of Aiman's corn plant is 5 cm. *After x days, the height of the Aiman's corn plant is y* cm, *related by the equation* $y = \frac{3}{4}x + 5$. *Meanwhile, the Zarul's corn plant has the same rate of growth as the Aiman's corn plant. Zarul's corn plant reached a height of* 152 cm *after* 25 *days.*

Pokok Aiman/
Aiman's plant

Pokok Zarul/
Zarul's plant

Rajah / *Diagram* 6

Cari satu persamaan yang mewakili tinggi pokok jagung Zarul dan seterusnya nyatakan tinggi asalnya.

Find the equation to represent the height of Zarul's corn plant and then state its initial height.

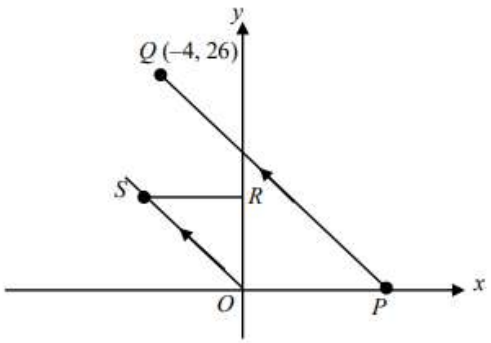
[4 markah/ *marks*]

Jawapan / *Answer*:

BENTONG. PAHANG

Rajah 1 menunjukkan sebuah segitiga bersudut tegak *ORS* yang dilukis pada satu satah Cartes.

Diagram 1 shows a right-angle triangle ORS drawn on a Cartesian plane.



Rajah 1 / *Diagram 1*

Diberi *OS* = 13 unit, *OR* = 12 unit.

Given OS = 13 units, OR = 12 units.

Cari persamaan garis lurus PQ.

Find the equation of straight-line PQ.

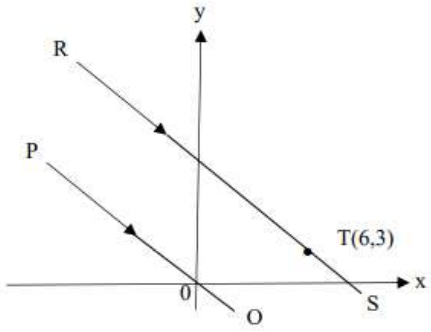
[4 markah / 4 marks]

Jawapan / Answer:

JOHOR SET 1

Dalam Rajah 4, garis lurus PO adalah selari dengan garis lurus RS. Persamaan garis lurus PO ialah $2y = -x$

In Diagram 4, straight line PO is parallel to straight line RS. The equation of straight line PO is $2y = -x$



Rajah 4 / *Diagram 4*

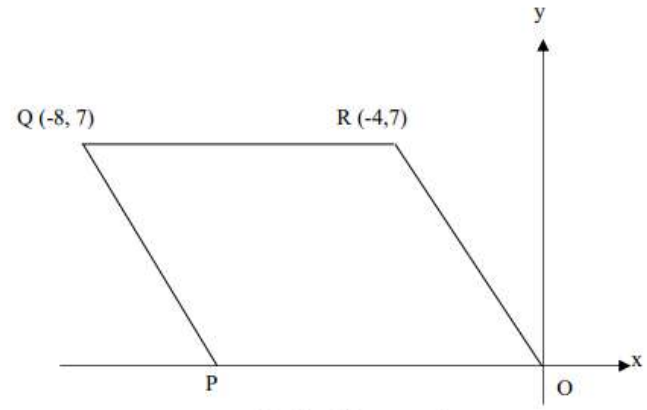
(a) Cari persamaan bagi garis lurus RS.
Find the equation of the straight line RS.

(b) Cari pintasan-x bagi garis lurus RS.
Find the x-intercept of the straight line RS.

[5 markah / 5 *marks*]

JOHOR SET 2

Rajah 4 menunjukkan sebuah segiempat selari *OPQR* yang dilukis pada satah cartesian di mana O ialah asalan.
Diagram 4 shows a parallelogram OPQR drawn on a Cartesian plane where O is the origin.



Rajah 4 / *Diagram 4*

(a) Cari persamaan garis lurus PQ
Find the equation of the straight line PQ

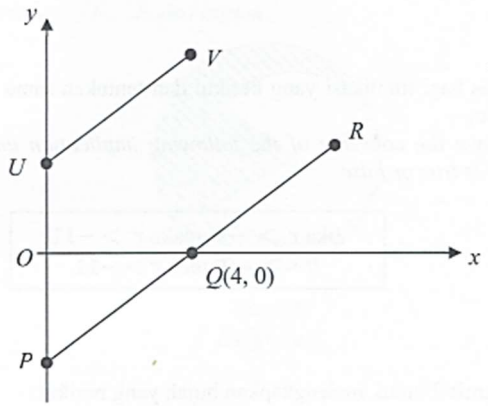
(b) Cari pintasan-*x* bagi garis lurus PQ
Find the x-intercept of the straight line PQ

[5 markah/5 *marks*]

N9

Rajah 5 menunjukkan garis lurus *UV* dan garis lurus *PQR* dilukis pada satah Cartes. *UV* adalah selari dengan *PQR*. Diberi persamaan garis lurus *UV* ialah $y = 2x + 5$.

Diagram 5 *shows a straight line UV and a straight line PQR drawn on a Cartesian plane. UV is parallel to PQR. Given that the equation of straight line UV is* $y = 2x + 5$.



Rajah 5
Diagram 5

Cari
Find

(*a*) pintasan-*x* bagi garis lurus *UV*.
the x-intercept of the straight line UV.

(*b*) persamaan garis lurus *PQR*.
the equation of the straight line PQR.

[4 *markah*]
[4 *marks*]

Jawapan / *Answer* :

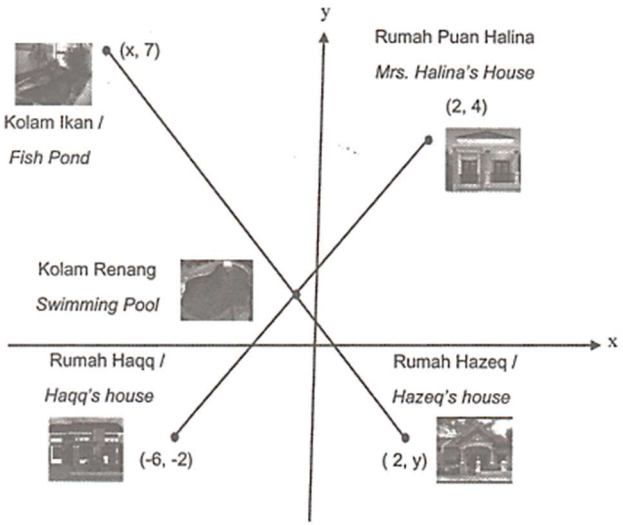
(*a*)

(*b*)

KELANTAN

. Rajah 6 menunjukkan kedudukan kolam renang, kolam ikan dan rumah Puan Halina serta dua orang anaknya, Hazeq dan Haqq. Kolam renang yang dibina itu adalah berjarak sama di antara ketiga-tiga rumah Puan Halina, Haqq dan Hazeq.

Rajah 6 shows the position of the swimming pool, fish pond and house of Mrs. Halina and her two children, Hazeq and Haqq. The built-up swimming pool is equidistable between the three houses of Mrs. Halina, Haqq and Hazeq.



Rajah 6 / *Diagram 6*

(a) Berdasarkan Rajah 6 di atas,

Based on the Diagram 6 above,

(i) cari koordinat kedudukan kolam renang.

find the coordinates of the position of the pool. [2 markah/ *marks]*

(ii) hitung jarak di antara rumah Haqq dan kolam renang tersebut?

calculate the distance between Haqq's house and the pool?

*[*2 markah/ *marks]*

(iii) Cari koordinat kedudukan rumah Hazeq.

Find the coordinates of Hazeq's house position.. [4 markah/ *marks]*

(b) Berdasarkan Rajah 6, kedudukan kolam ikan adalah terletak di atas garis lurus yang menghubungkan rumah Hazeq dan kolam renang. Cari :

Based on Figure 6, the position of the fish pond is located on a straight line connecting Hazeq's house and the swimming pool. Find :

(i) Kecerunan garis lurus yang menghubungkan kolam renang dengan rumah Hazeq.

The gradient of the straight line that connects the pool with Hazeq's house. [1 markah / *marks]*

(ii) Koordinat kedudukan kolam ikan

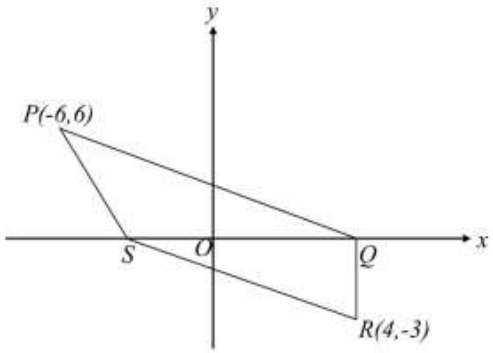
Coordinates of the position of the fish pond [3 markah / *marks]*

(iii) Persamaan garis lurus yang melalui koordinat kedudukan kolam ikan dan selari dengan garis lurus yang menghubungkan kedudukan rumah Puan Halina dengan kedudukan rumah Haqq.

The equation of a straight line which passes through the coordinates of the position of the fish pond and is parallel to the straight line which connects the position of Mrs. Halina's house with the position of Haqq's house. [3 markah/ *marks]*

KUANTAN. PAHANG

Rajah 3 menunjukkan sebuah trapezium *PQRS* dilukis pada suatu satah Cartes. Titik *O* ialah asalan. Garis lurus *QR* selari dengan paksi-*y*. Titik *S* dan titik *Q* berada pada paksi-*x*.
Diagram 3 shows a trapezium PQRS drawn on a Cartesian plane. Point O is the origin. Straight line QR is parallel to the y-axis. The points S and Q lie on the x-axis.



Rajah 3 / *Diagram 3*

Cari
Find,

(a) persamaan bagi garis lurus *PQ*,
the equation of the straight line PQ,

(b) pintasan-*x* bagi garis lurus *PQ*.
the x-intercept of the straight line PQ.

[4 markah /*marks*]

Jawapan / *Answer*

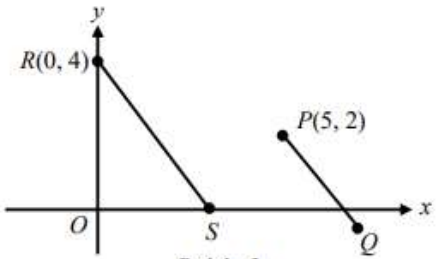
(a)

(b)

TERENGGANU

Rajah 3 di bawah menunjukkan garis lurus *PQ* dan garis lurus *RS* dilukis pada suatu satah Cartes. *PQ* adalah selari dengan *RS* dan jarak *RS* ialah 5 unit.

Diagram 3 *below shows the PQ straight line and the RS straight line drawn on a Cartesian plane. PQ is parallel to RS and the distance RS is* 5 *units.*



Rajah 3
Diagram 3

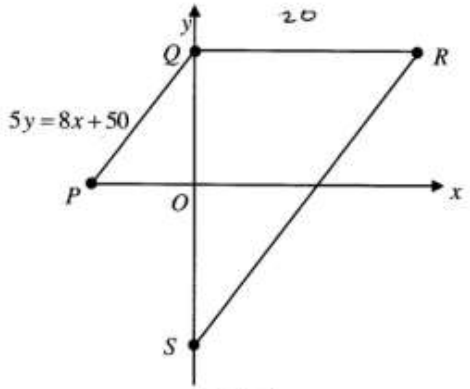
Nyatakan koordinat *S* dan seterusnya cari persamaan garis lurus *PQ*.
State the coordinates of S and hence find the equation of the straight line PQ.

[5 markah / 5 *marks*]

Jawapan / *Answer* :

SBP

Dalam Rajah 8, O ialah asalan. Titik-titik P, Q, R dan S menunjukkan lokasi kedudukan khemah di sebuah tapak perkhemahan. Garis lurus PQ adalah selari dengan garis lurus SR dan garis lurus QR adalah selari dengan paksi-x.
In Diagram 8, O is the origin. Points P, Q, R and S shows location of tents in a campsite. Straight line PQ is parallel to straight line SR and straight line QR is parallel to x-axis.



Rajah 8
Diagram 8

Diberi bahawa skala ialah 1 unit = 2 meter dan jarak kedudukan khemah Q dan khemah R ialah 20 meter.
Given that the scale is 1 unit = 2 meters *and the distance of tent Q and tent R is* 20 meters.

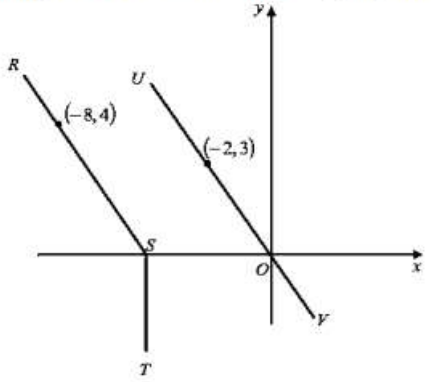
(a) Nyatakan persamaan garis lurus QR.
State the equation of straight line QR.

(b) Cari persamaan garis lurus yang menghubungkan khemah S dan khemah R.
Find the equation of the straight line connecting the tent S and tent R.

[4 *markah*]
[4 *marks*]

PERAK

Rajah 5menunjukkan garis lurus, RS, ST dan UOV, dilukis pada suatu satah Cartes. Garis lurus ST adalah selari dengan paksi-y dan garis lurus RS adalah selari dengan garis lurus UV.



Rajah 5

a) Cari persamaan garis lurus RS.

b) Cari pintasan-x bagi garis lurus ST.

[4markah]

Jawapan :

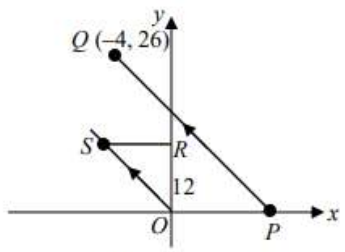
a)

b)

SABAH

Rajah 5 menunjukkan sebuah segitiga bersudut tegak *ORS* yang dilukis pada satu satah Cartes.

Diagram 5 shows a right-angle triangle ORS drawn on a Cartesian plane.



Rajah / *Diagram* 5

Diberi $OS = 13$ unit

Given $OS = 13$ *units*

Cari persamaan garis lurus *PQ* dan seterusnya, cari koordinat bagi *P*

Find the equation of straight line PQ and hence, find the coordinate of P

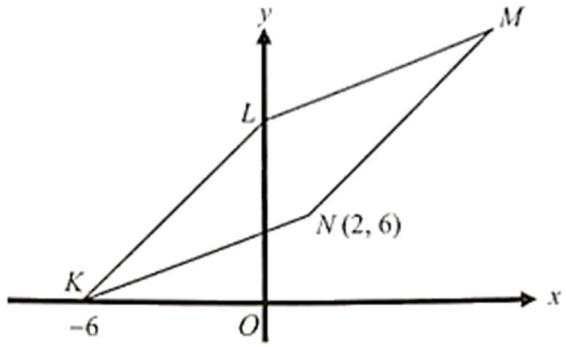
[5 markah /

Jawapan / *Answer*:

SELANGOR 1

Rajah 5 menujukkan sebuah rombus *KLMN*.

Diagram 5 shows a rhombus KLMN.



Rajah 5

Diagram 5

Diberi bahawa $KN = 10$ unit.

Given that $KN = 10$ units.

Cari

Find

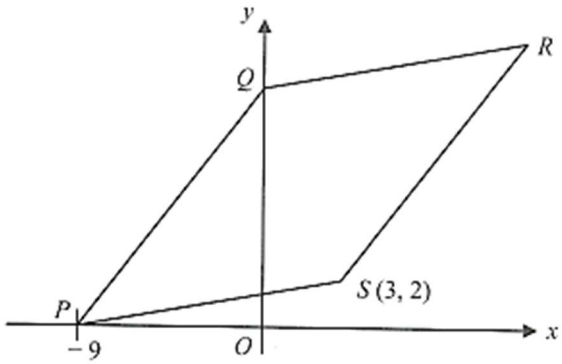
(*a*) kecerunan garis lurus *LM*,
gradient of straight line LM,

(*b*) persamaan garis lurus *MN*.
the equation of the straight line MN.

[4 *markah*]
[4 *marks*]

SELANGOR 2

Rajah 6 menunjukkan sebuah segi empat selari $PQRS$.
Diagram 6 shows a parallelogram $PQRS$.



Rajah 6
Diagram 6

Diberi bahawa $PQ = 15$ unit.
Given that $PQ = 15$ units.

Cari
Find

(*a*) kecerunan garis lurus QR,
gradient of straight line QR,

(*b*) persamaan garis lurus RS.
the equation of the straight line RS.

[4 *markah*]
[4 *marks*]